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weight, a total beta-acids concentration less than 20% by weight, and a total hop essential oils concentration in excess of 1% by weight.

REMARKS TO DETAILED ACTION

This is a response to the Office Action, referenced by the Examiner as Paper No. 6, for the above-captioned application. The following remarks are organized by the paragraph numbers used in the Examiner's Paper No. 6, beginning on page 2 therein:

1. The Applicants will file formal drawings when the application is allowed.
2. The Examiner objects claims 16 through 19 as being substantial duplications. The Applicants, as herein directed, amend claim 16 to distinguish claims 16 through 19 from claims 13 through 15.
3. In this paragraph, the Examiner introduces the rejections under 35 U.S.C. §103(a). No response is required.
- 4-5. The Examiner rejects claims 1, 1 and 12 through 19 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patents Nos. 4,212,895 or 4,218,491 to Laws et al. The Applicant will specifically respond to the Examiner's rejection as listed in paragraph, as follows:

Firstly, the Examiner asserts that his rejection does not combine the processes of '895 and '491 patents. However, in page 3 at the end of paragraph No. 6, in the Examiner's last Office Action (Paper No. 6), the Examiner states:

“Clearly the mixture of ‘895 and ‘491 compositions, for example 50/50, would produce the claimed product”

Apparently the Examiner is distinguishing between the processes of the two references and products, as listed therein. Sample products of the ‘895 patent are listed TABLE 3 therein, on column 18. None of these products resemble the product cited by the Examiner as produced by Laws et al. ‘895. The listed beta acid concentration range of the Laws et al. ‘895 process is between 56% and 87%.

At the head of column 2 in Laws et al ‘895, the Examiner cites a prior art, “typical” organic solvent extraction. This solvent extraction is not a product of any process of the ‘895 patent. There is no citation to the source of this table in ‘895, other than “typical” and “conventional.” The Applicants again wish a clarification as to how the Examiner can realistically combine the products of organic solvent and carbon dioxide extraction, especially when the residual organic solvent includes between .5% and 1% of methylene chloride, methyl alcohol, ethyl acetone, butanol or trichloroethylene. The “teaching” of this organic extract, as cited by the Examiner, is introduced by Laws et al. with a warning that “. . .there may well be considerable difficulties in the future for meeting public health requirements for levels of residual solvents.” The present, consumer driven prohibitions on organic solvents in foodstuffs is certainly a “considerable difficulty” that Laws et al. astutely predicted.

The Applicants have amended their claims to include the requirement that they be free of organic solvents. The Applicants strongly assert that they have discussed the unacceptable presence of organic solvents in prior art extracts. Specifically, page 1, lines 19 through 20, states:

“CO2 hop extracts are popular with brewers because they are intrinsically free from organic solvent residues.”

Additionally, page 2, beginning at line 16, states:

“The process described by Hildebrand ‘835 employs unacceptable organic solvents. . . .”

Also, page 3, beginning at line 3 states:

“The Klingel ‘265 process has many of the same shortcomings as observed in Hildebrand ‘835. Klingel ‘265 teaches the use of unacceptable organic solvents. . . .”

The Applicants believe they have provided a sufficient showing of prior art extract’s content of organic solvents.

7. The stability of the product of the present invention is superior to the highest purity fractions of alpha-acids, as noted in the Applicants’ specification on page 10, lines 14 and 15. The Applicants presently rely on the fact that pure alpha-acids are notoriously unstable in storage and the products of the present invention offer a stabilized , yet enhanced product. Th eproduct of the Applicants’ invention includes elevated levels of the desired alpha-acids, and also includes the stabilizing and storage performance enhancing components of non-fortified, standard hop extract.

8. Contrary to the Examiner’s observation, the Applicants have *not* admitted that those in the brewing arts commonly mix various fractions of hops. Page 2, lines 16 through 19 of the Applicants’ specification notes:

“Hildebrand ‘835 then suggests the recombining and homogenization of these two separate fractions for eventual addition to the brewer’s wort or to a brewed beverage.”

This statement referring to Hildebrand only pretains to the *eventual* addition of the combined fractions to a berwer's wort, certainly not the combining of the fractions by the brewer. The referred to fractions are combined by Hildebrand in the extraction process.

Additionally, lines 26 through 28, of the Applicants' specification state:

"Similarly, U.S. Patent No. 3,364,265 to Klingel et al. contemplates "made-to-order" mixtures for production of malt beverages as an object but fails to provide a description or examples for such mixtures."

These mixtures are "made-to-order" for the brewer, *not* mixed by the brewer. The extractor makes the mixture at the request of the brewer for specific extract compositions. The brewer certainly lacks such extraction processing abilities.

9. The Applicants' wish to clarify that despite the Examiner's remarks to the contrary, the specific holdings of *In re Levin*, 94 USPQ 79, 39 CCPA 976, 197 F. 2d. 345 (1952), are not contested by the Applicants. There is no dispute that an improvement patent can only be granted when the new invention is distinct from and independent of the former one. However, the dicta of *In re Levin*, is too broadly interpreted by the Examiner, well beyond the bounds of conventional current case law, especially when interpreted in view of the multitude of subsequent decisions, as briefly outlined in the Applicants' prior response. The holding of *In re Levin* relates to the mere rearrangement in a description of the same parts for claims covering an apparatus, a mining machine, as in a 35 U.S.C. §102 type of rejection. The *In re Levins* analysis totally fails to discuss, let alone hold, that a new mixture of materials can be considered identical to a prior mixture, as the Examiner contends, nor that such a case can be applied in the chemical arts, wherein unpredictable and novel results and are often achieved with the same components mixed in unconventional and

unique formulations. The Examiner is respectfully requested to reconsider his reliance on a case may be good case law, but is off-point for the issues at hand.

VERSION OF CLAIMS WITH MARKINGS TO SHOW CHANGES MADE

1. (Twice Amended) An enriched alpha-acid hop extract product free of organic solvent and formed from a carbon dioxide extraction of whole hops, the enriched alpha-acid hop extract product having:

an alpha-acids concentration supplemented by the addition of purified alpha-acids, the resultant alpha-acids concentration greater than 60% by weight;

a total beta-acids concentration of less than 20% by weight; and

a total hop essential oils concentration in excess of 1% by weight.

16. (Amended) An enriched alpha-acid hop extract product having:

a first whole hop extract component produced through a carbon dioxide solvent extraction, the whole hop extract component including alpha-acids, beta acids and hop essential oils, hard resins and waxes;

a purified alpha acids component formed from a refined portion of an organic solvent free, second whole hop extract component;

the purified alpha acids component stabilized in storage by the first whole hop extract component;

and

the enriched alpha acid-hop extract having a total alpha-acids concentration greater than 60% by

weight, a total beta-acids concentration less than 20% by weight, and a total hop essential oils concentration in excess of 1% by weight.

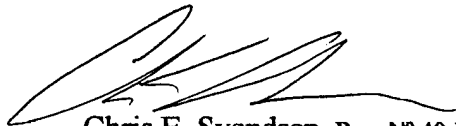
CONCLUSION

10-11. The Applicants request reconsideration of the claims as amended and added. The Applicants have fully addressed all of the Examiner's concerns, and believe that claims 1 and 16, as amended in response to the Examiner's rejections and claim 2, 12 through 15, and 17 through 19 are all in condition for allowance. The Applicants therefore respectfully request allowance of claims 1 and 2, and 12 through 19.

If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the application, he is invited to call the Applicants' undersigned representative at (509) 453-1319.

Respectfully submitted,

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